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ABSTRACT

A study examined 3 grammar teaching methods to understand why some methods may carry over into writing better than others. E. Bialystok and E. B. Ryan's (1985) metacognitive model of language skills was adapted to plot traditional grammar, sentence combining, and the functional/inductive approach according to the amount of analyzed knowledge and cognitive control each method requires to raise metalinguistic awareness. In so doing, the cognitive demands asked of various kinds of writers by each method can be ascertained. Research results from several studies were analyzed. Results indicated that traditional grammar is not being blended into students' writing because it requires a great deal of cognitive control and analyzed knowledge to deploy. On the other hand, neither sentence combining nor the functional/inductive approach hamstring students with multiple terms and abstract concepts to memorize. Rather, writers focus their attention on some aspect of sentence error and correction by using implicit knowledge, thus keeping the value on the analyzed knowledge axis low. Findings suggest that the highly analyzed system of traditional grammar has had limited success in carrying over into writing because: (1) its goal is to shape mental representations, necessitating an extended period of time to acquire the system; (2) control is possible only after the writer knows the system; and (3) overemphasis on that skill can undermine the production side of things. (Contains 3 figures and 37 references; notes are appended.) (Author/CR)

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**ASSESSING GRAMMAR TEACHING METHODS
USING A METACOGNITIVE FRAMEWORK**

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**ASSESSING GRAMMAR TEACHING METHODS
USING A METACOGNITIVE FRAMEWORK**

ABSTRACT

To understand why some grammar teaching methods may carry over into writing better than others, this paper adapts Bialystok & Ryan's (1985) metacognitive model of language skills to plot traditional grammar, sentence combining, and the functional/ inductive approach according to the amount of analyzed knowledge and cognitive control each method requires to raise metalinguistic awareness. In doing so, the cognitive demands asked of various kinds of writers by each method can be better appreciated.

ASSESSING GRAMMAR TEACHING METHODS USING A METACOGNITIVE FRAMEWORK

The controversy over if, how, and why we should teach traditional grammar has not abated over the decades despite an upsurge in research focusing on each of those questions. Often we can't even agree on its definition. While there are several methods of teaching traditional grammar, usage, and mechanics rules, it is defined in this paper as "having the students memorize abstract definitions; do fill-in-the-blank exercises; label, parse, and diagram sentences; and find and fix errors" (Purser 8).¹

Even though researchers and practitioners may recognize that studying traditional grammar is useful in many ways, they have not resolved the most crucial question of whether this knowledge transfers over to writing. Indeed, studies have shown that the correlation between this kind of grammar instruction and better writing is weak at best (Braddock et al., Elley et al.; Garrett).

Elley et al., for instance, conducted a longitudinal study of three groups of students who were given varying types of grammar instruction: 1) only transformational grammar, 2) extra literature and creative writing, but no grammar, and 3) only traditional school grammar. At the end of the first year, no significant differences among groups existed on any of the measures. Upon testing at the end of the second year, the traditional grammar group pulled ahead of the no-grammar group in terms of essay content. After the third year, the T-G groups and no-grammar groups performed significantly better on the English

usage test, but no differences were discernible among groups on the quality of correctness of students' writing.

Other studies (e.g., Bowden; Sullivan; White; Whitehead) corroborate the findings of Elley et al.: grammar teaching does not have a beneficial effect on students' writing. Not included in these studies, however, was a satisfactory explanation of *why* traditional school grammar doesn't improve writing, nor did they explore what other method(s) may better achieve those ends.

This paper attempts to refine our knowledge on these issues by codifying three grammar teaching methods on metacognitive grounds. To that end, the approaches are plotted on a metacognitive model of language skills designed by Bialystok and Ryan. This plotting will help illustrate how well each grammar teaching method serves learners who vary in age, cognitive abilities, level of expertise, and goals.

Central to this discussion is how each method goes about raising metalinguistic awareness. Gombert defines metalinguistic awareness as the process of becoming conscious of language use.² Garton & Pratt state that metalinguistic awareness is

analogous to 'using' glass in a window to see the view. We do not normally focus any attention on the glass itself. Instead we focus our attention on the view. But we can, if we choose, look at the glass and may indeed do so for intrinsic interest or for a particular reason. Differences in the thickness of the glass or other blemishes may distort the view and lead us to

focus attention directly on it. (126)

They relate the story (Perner) of two non-literate and metalinguistically unaware workers mounting letters on a sign. To them, putting up "letters" means putting up plastic objects, not symbols for sounds in the language.

Raising metalinguistic awareness is an important issue here because how it is accomplished seems to bear directly on how well grammar is incorporated into writing. Even more to the point, the more inductively a grammar teaching method goes about raising metalinguistic awareness, the easier that knowledge is to deploy when writing. The remainder of this paper will explicate the following line of reasoning to support this thesis:

1) We all acquire the grammar of our first language (L1) implicitly.

2) Implicit information is "stored" differently from that learned explicitly.

3) Recent research (Reber) has suggested that raising metalinguistic awareness is done more efficiently by using a more implicit approach.

4) Each grammar teaching method can be plotted on a graph to see how it raises metalinguistic awareness. In doing so, we can understand why certain grammar teaching methods are more easily deployed when writing.

ACQUIRING KNOWLEDGE IMPLICITLY VS. EXPLICITLY

1) We all learn our L1 grammar implicitly.

Reber explains that all implicit learning is done "largely

independently of conscious attempts to learn and largely in the absence of explicit knowledge about what was acquired" (5). His interest in the topic grew out his own experience with implicit learning:

I found what seemed for me to be the most satisfactory of "learnings" were those that took place through what we used to call "osmosis," that is, one simply steeped oneself in material, often in an uncontrolled fashion, and allowed understanding to emerge magically over time. The kind of knowledge that seemed to result was often not easily articulated, and most interesting, the process itself seemed to occur in the absence of efforts to learn what was, in fact, learned. (22)

Of course, one's cognitive ability to learn explicitly improves with age. But an infant has no option but to learn L1 grammar implicitly (Bialystok and Hakuta). Therefore we may want to approach the teaching of the grammar of one's L1, that is, access that implicitly learned information, differently from that which was acquired explicitly.

2) *Implicit information is "stored" differently from that learned explicitly.*

Reber et al.'s research investigated the differences between these two types of learning by looking at how differently a subject stores implicitly vs. explicitly acquired knowledge when learning artificial languages (see Reber 120).

In the experiment, five groups had various combinations of

implicit and explicit training of the language. Of interest here are two groups: one that received explicit then implicit (E-I) training, and another that had the reverse order, implicit then explicit training (I-E).

PLACE FIG. 1 HERE.

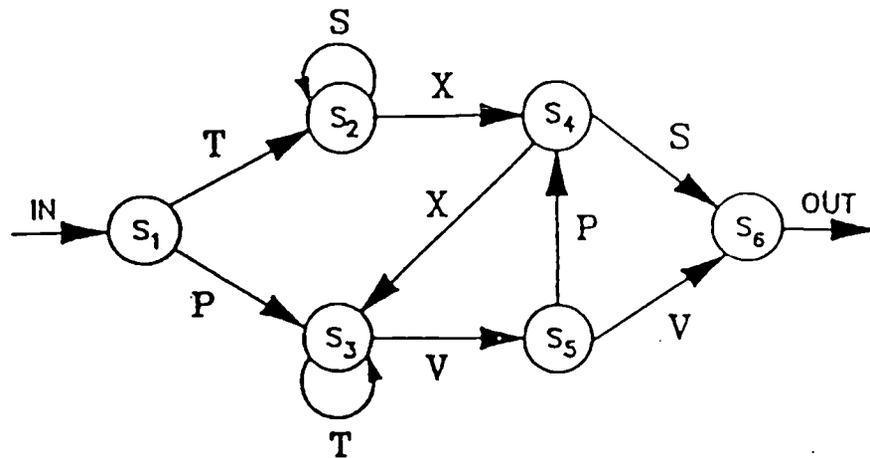
The first group (E-I) started with explicit training with the schematic diagram followed by the implicit grammatical examples. The other group (I-E) had the order reversed: They received examples of "grammatical" letter strings followed by explicit information about how to use a schematic drawing to form grammatical strings. Both groups were then asked to judge the grammaticality of various test strings.

<u>Order of Language Training</u>	<u>Success judging grammaticality</u>
Explicit* - Implicit* (E-I)	1
Implicit - Explicit (I-E)	2
Implicit only (I)	3

*Explicit training = given rules via schematic diagram

*Implicit training = given examples of grammatical sentences

Those receiving E-I training performed better than those with I-E training. However, those who were given the "rules" after they had learned the system implicitly felt it "disturbed them" in some way and wished they had never seen the diagram (Reber et al. 500).



Learning Stimuli

1. PVPXVPS
2. TSSXXVPS
3. TSXS
4. PVV
5. TSSSXXVV
6. PTVPXVV
7. TXXVPXVV
8. PTTVV
9. TSXXTVPS
10. TXXTVPS
11. PTVPS
12. TXS
13. TSXXTVV
14. PVPXTVPS
15. TXXTTTVV
16. PTTTVPS
17. TSSSXS
18. TSSXXVV
19. PVPXVV
20. TXTVPS

Testing Stimuli

- | | |
|---------------|---------------|
| *1. PTTTVPS | *26. SVPXTVV |
| *2. PVTVV | 27. PVPXTTVV |
| *3. TSSXXVSS | 28. PTTVPXVV |
| *4. TTVV | 29. TSXXTVPS |
| 5. PTTTVPS | 30. TXXTVV |
| 6. PVV | 31. TSSSXS |
| *7. PTTPS | *32. TSXXPV |
| 8. TXXTTVPS | 33. TPVV |
| 9. TSXXTTVV | *34. TXPV |
| *10. PVXPVXPX | *35. TPTXS |
| *11. XXSVT | 36. PVPXTVPS |
| 12. TSSXXTVV | *37. PTVPXVSP |
| 13. TXS | 38. PVPXVV |
| *14. TXXVX | 39. PTVPXVPS |
| *15. PTTTVT | *40. SXXVPS |
| 16. TSXXVPS | 41. TXXVV |
| 17. PTTTVV | *42. PVTTTVV |
| *18. TXV | 43. TSSXXVPS |
| 19. PTTVPS | *44. PTVVVV |
| 20. TXXTTVV | *45. VSTXVVS |
| *21. PSXS | 46. TSXXVV |
| *22. PTVPPPS | *47. TXXTVPT |
| 23. PTTTTTVV | 48. PVPS |
| *24. TXVPS | *49. PXPVXVTT |
| 25. TSSXS | *50. VPXTVV |

*Indicates a Nongrammatical string

Fig. 1. A sample of finite grammar along with sample sets of strings used during learning and well-formedness testing. (Winter and Reber 1994).

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The "disturbance" that some of Reber's Implicit-Explicit subjects reported may be similar to how we would feel after seeing a map of an area whose environs we learned to navigate by our senses. Somehow the map represents the relationship of buildings and streets in an altogether different way. Certainly, as adults we can reorient our focus and use the map to advantage; but the point is the "storage" of the rules of the artificial language (i.e., our "map") seems qualitatively different than those who had E-I instruction first.

Here is Reber's explanation of why the subjects felt irritated or annoyed at the explicit information:

...When such explicit instruction is introduced later in the observation period, its effects are different because...it imposes a formalization of structure that is, in all likelihood, discoordinate with the tacit system that was in the process of being induced. (51)

So even though the E-I group did better - most probably because of the adult's highly developed ability to learn explicitly - it points out how differently one stores explicitly vs. implicitly learned mental representations. Moreover, it also shows how the imposition of a rule-governed, highly abstract, analytical system can be at odds with what one has acquired implicitly. Therefore, we may posit at this point that since the grammar of the L1 is implicitly learned, the imposition of the highly abstract and analytical system of traditional grammar may disturb the mental representations about that grammar that are already in place.

3) Reber's research has suggested that raising metalinguistic awareness is done more efficiently by using a more implicit approach.

Grammar teaching methods can be divided into two categories: those that teach an explicit, highly analyzed system of rules and those that build on a system of implicitly learned rules. If the implicitly learned system is more effectively and easily brought to consciousness using an inductive, nonlinear approach, as the Reber et al., research implies, then this information would help teachers assess and choose a method of grammar instruction for their writers, especially younger, less cognitively sophisticated writers, and/or basic writers.

4) Each grammar teaching method can be plotted on a graph to see how/if it raises metalinguistic awareness. In doing so, we can appreciate why certain methods are more easily deployed when writing.

Some researchers doubt that traditional grammar carries over into students writing, but we don't know exactly why. Bialystok and Ryan contend that increasing metalinguistic awareness is part of learning how to write better. If this is so, we should be judging grammar teaching methods according to how well they raise metalinguistic awareness, which may be accomplished through a more inductive approach.

These differences between implicit and explicit approaches can best be understood by placing them at the appropriate intersection of two skills components: analyzed knowledge and

cognitive control. In addition to evaluating the cognitive burden that each method imposes, placing them on these axes will shed light on how each may best accommodate the writer's age, cognitive abilities, and level of expertise.

The next section describes the two skills components and what they mean to writing and grammar learning.

THE METACOGNITIVE FRAMEWORK: *Analyzed Knowledge vs.*

Cognitive Control

We can better understand how grammar teaching methods raise metalinguistic awareness by locating them on two axes that measure analyzed knowledge and cognitive control (Bialystok & Ryan).

PLACE FIG. 2 HERE.

Analyzed Knowledge

Analyzed knowledge means that a person has such a clear awareness of a concept that s/he can define it. The authors also state that acquiring analyzed knowledge is the gradual process of turning implicit knowledge into explicit knowledge. In other words, the concept of noun does not have an either/or level of awareness in the mind. One develops that concept through years of exposure to and use of it in many ways (exercises, correction, reading definitions, etc). These concepts then become a metalanguage for discussing errors.

Within the metalinguistic quadrant, the following four

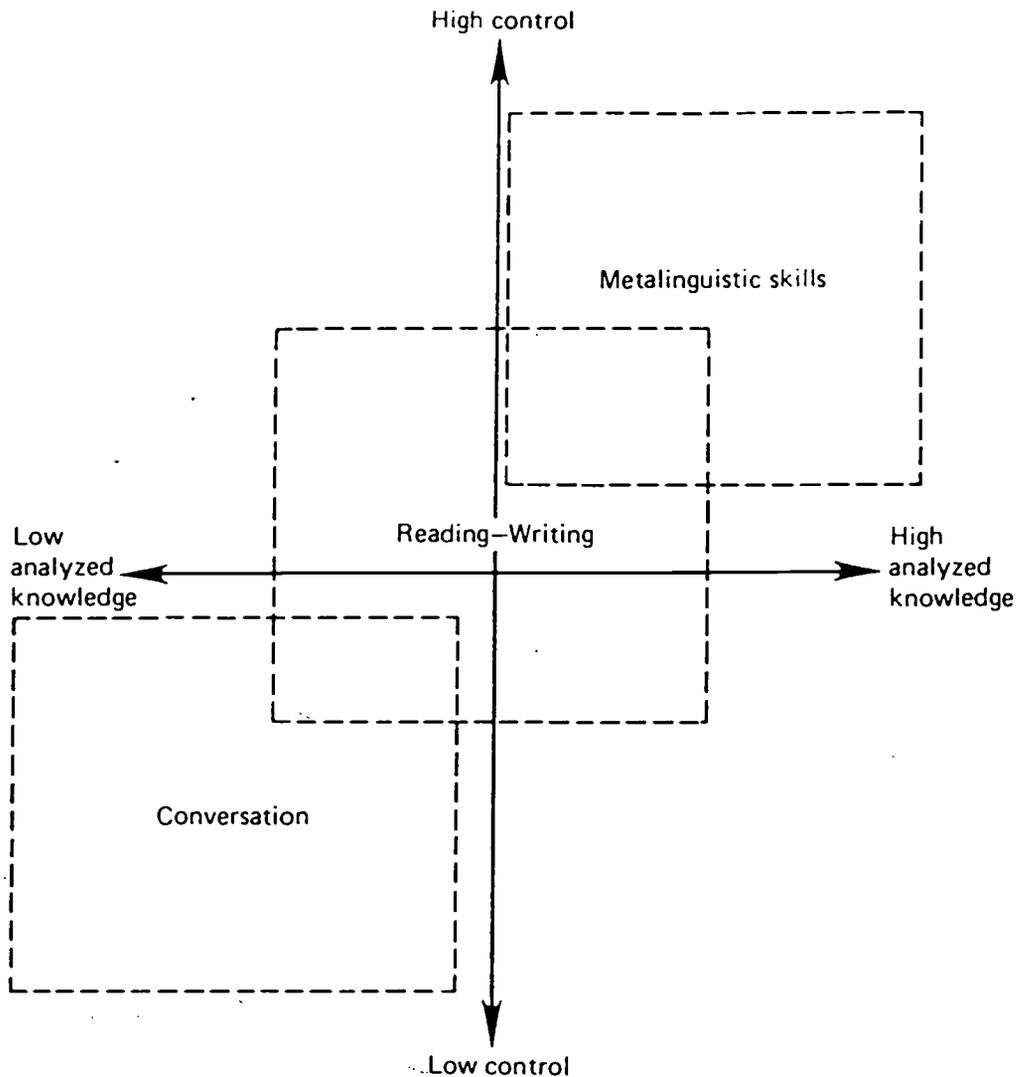


Fig. 2. A metacognitive model of language skills (Bialystok & Ryan 1985).

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metalinguistic tasks are ranked from lowest to highest in their demands of analyzed knowledge (See Fig. 3):

PLACE FIG. 3 HERE

1) **Judging acceptability** of a sentence. e.g., Which sentence is grammatically correct?:

a) I went to store.

b) I went to the store.

Can the writer identify which sentence is unacceptable?

2) **Locating** the unacceptable part of a sentence. Can the writer identify the exact word or phrase that is wrong?

3) **Correcting** the unacceptable part of a sentence. Can the writer correct the error based solely on implicit knowledge of English?

4) **Explaining** the error. Can the writer explain why it is considered ungrammatical? This requires a high level of analyzed knowledge about the language.

Cognitive Control

A second component called "cognitive control" governs access to the acquired knowledge. It may be analogous to the control tower at an airport. This mechanism determines where to focus attention: on meaning, structure, or both. For example, when performing a linguistic task, such as correcting the sentence "The cat bark all day," the writer must choose between attending to structure (The cat **barks** all day.), attending to meaning (The

COGNITIVE CONTROL

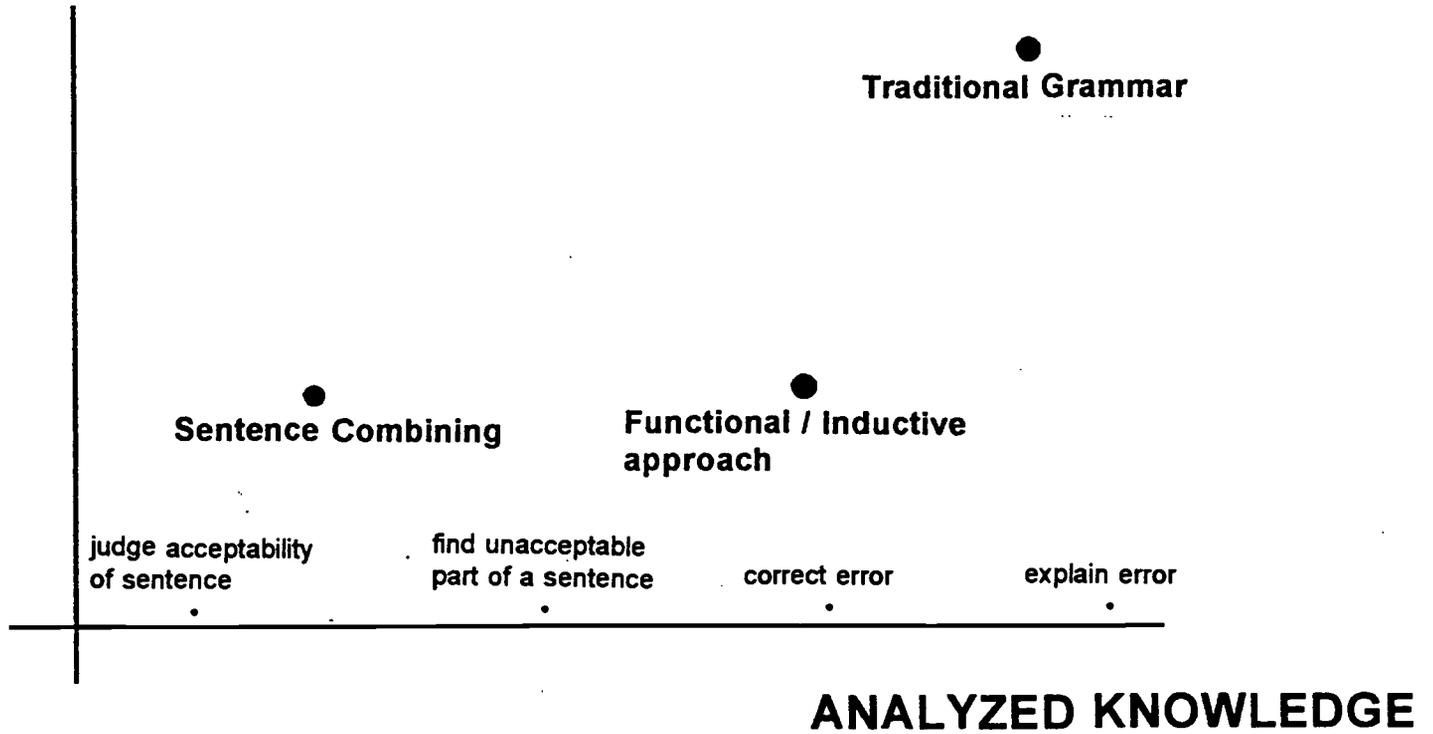


Fig. 3. Plotting of language tasks and approaches on the metacognitive framework (adapted from Bialystok and Ryan).

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cat **miaow** all day.), or attending to both structure and meaning, (The cat **miaows** all day.). The more the learner must ignore meaning and concentrate on form, the greater the difficulty of the task and therefore the higher the value on the cognitive control axis. Conversely, the more fluently the writer can make these decisions, the easier the task and the lower its value on the axis. It stands to reason that the more the learner can draw upon knowledge already present (i.e., implicit knowledge) instead of an explicitly learned, rule-governed, highly analyzed set of information, the easier it is to deploy that knowledge when writing.

To summarize this model, then, analyzed knowledge means the analysis of structure and form of the language. The higher the value, the more explicitly the knowledge must be in the mind of the writer. Low values on the cognitive control axis mean that the learner can gain access to that information more easily.

PLOTTING GRAMMAR TEACHING METHODS ON THE AXES

Three grammar teaching methods were chosen for comparison in this paper: traditional grammar, sentence combining, and the functional/inductive approach. They were selected because they represent not only the greatest variety but also the extremes among popular approaches used today. Traditional grammar has been used since the late eighteenth century and evolved by applying Latin grammar to English (Hillocks and Smith). Its widespread use in the classroom dwarfs that of all other methods.

While there are many approaches that purport to be different from traditional grammar, such as functional grammar (e.g., Butt et al.) and rhetorical grammar (Kolln), they are only slight variations of traditional grammar, that is, they assume the student will learn grammatical terms and apply them to the production, editing, and correction of text. The process approach (Weaver "Grammar"; Zemelman and Daniels) also uses traditional grammar, albeit in the context of writing instead of as a separate system.

Sentence combining (S-C) has also enjoyed widespread popularity since its introduction in 1973 by Frank O'Hare. As Simmons reports,

...[T]he practice of S-C activity became quickly popular among junior high teachers everywhere. It continues to occupy substantial class time today and is seen by not a few English Educators as an antidote, if not a replacement for, the grammar-as-writing instructional approach that had so dominated junior high English curricula virtually from their beginnings.

(325)

The functional/inductive approach, the latest and least well known of the three, was developed in response to the lack of success Noguchi was having using traditional grammar. He states three causes as the most prominent in the failure of traditional grammar instruction to improve writing: Grammar is not adequately learned, nor is it transferred or transferable to writing

situations (4-8).

Paradoxically, maximizing the benefits of grammar instruction to writing requires teaching less, not more, grammar. This means making grammar instruction both less expansive and more cost-efficient, which, in turn, should create more time for other kinds of writing instruction. (16)

Fig. 3 shows how these selected methods can be plotted on the axes of cognitive control and analyzed knowledge.

Traditional Grammar

Traditional grammar is placed to the far right on the analyzed knowledge axis because it requires the learning of a highly developed rule system applied through parsing and diagramming sentences as well as understanding each word's relationship to the others. Eight classes of words (noun, pronoun, verb, preposition, adjective, adverb, conjunction, and interjection) are divided according to meaning, form, and function. These terms are usually taught as a separate body of knowledge and used to describe sentence structure. Any syntactic or punctuation errors are explained using these categories.

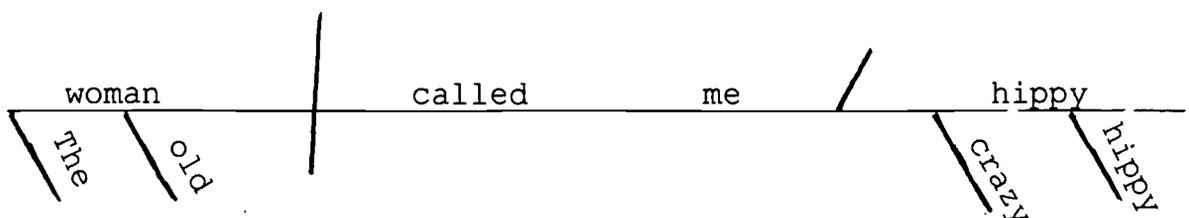
Here is a typical exercise using the terminology of traditional grammar:

Definition: An adjective is any word that modifies a noun.

I. Underline the adjectives in the following sentence:

A. The old woman called me a crazy hippy.

II. Now diagram the sentence.



It is placed high on the cognitive control axis because the knowledge that must be deployed during writing is not implicitly acquired. Rather, traditional grammar "assumes the ability to attend to structure and has emphasized analyzed knowledge in tasks such as learning definitions of parts of speech, identifying the subject and predicate within a sentence, and sentence diagramming" (Bialystok and Ryan 235). Its sole aim is to build up representations of structure of the language.

Sentence Combining

Sentence combining lies diametrically opposite traditional grammar on the framework. Unlike traditional grammar, it requires no formal analysis of structure but does ask the writer to judge the grammaticality of sentences, if in an indirect way. These judgments rely on the implicit knowledge about our L1.

The goal of sentence combining is to "hasten the structural elaboration of writers' sentences by means of appropriately designed exercises" (de Beaugrande 63). He continues:

By elevating one's awareness, sentence combining might increase the familiarity of syntactic patterns. Then, the structural complexity of the patterns would not create such a heavy load on the writer's limited

resources. Practice in constructing elaborate sentences should render part-whole relationships easier to recognize and to manipulate. (71)

To illustrate, here are some typical sentence combining exercises (All examples are from Weaver's "Grammar" 71-3). The student is asked to combine the following sentences by incorporating the word in bold.

- I.** A. 1. The princess knew SOMETHING.
 2. The dragon would attack her soon. **(THAT)**
 B. The princess knew that the dragon would attack her soon.
- II.** A. 1. The princess was frightened.
 2. She only had a bow and arrow. **(BECAUSE)**
 B. The princess was frightened because she only had a bow and arrow.

Other kinds of structured exercises ask students to look at a model and copy the pattern:

IIIa. Compare sentences in Column A with those in Column B.

A

B

(1) I just walked along kind of slow-like and kicked any stones that were in my way.

I just walked along kind of slow-like, kicking any stones that were in my way.

(2) He paused and looked at smoke.

He paused, looking at the smoke.

IIIb. Rewrite each sentence below so it is added in the same way as the sentences in Column B above.

(1) We stood outside and waited for the fire engines.

(2) She ran to school and laughed all the way.

Weaver points out that a discussion of the comma in Column B sentences can be productive at this time.

Here is another of Weaver's sentence combining exercises presenting the concept of the absolute.

IVa. What are the three sentences that have been added to make this single sentence?

(1) I was in a swamp, water up to my middle, the sun going down.

Using sentence (1) as a model, add each of the following sentences in the same way:

(2) I was desperate. The sun was down. Indians were all around.

(3) They were hard times for Jamestown. Sickness was everywhere. Food was scarce. The Indians were unfriendly.

IVb. These new sentence parts that you formed are called absolutes. In the last example there are three absolutes:

(4) They were hard times for Jamestown, *sickness everywhere, food scarce, the Indians unfriendly.*

How much terminology the instructor wants to use, such as "absolute," is an individual matter, but none of these exercises requires knowing grammatical terms.

Sentence combining relies on the judgment of the acceptability of the sentence: One must end up with a grammatically acceptable sentence after manipulating the structures. However, sentence combining does not specifically aim to help students locate an unacceptable part of a sentence or correct or explain an error and does not require explicit

knowledge of grammar or grammatical terms (Weaver "Grammar"). Such knowledge, if accomplished, is done so inductively. Sentence combining, therefore, can be placed high on the control axis since it fosters fluency, but low on the acquired knowledge axis since it requires very little analysis.

Functional/Inductive Approach

Elgin believes that students' knowledge about their L1 can be exploited and used to teach grammatical concepts, such as reflexive pronouns. Her goal is to link the rules students use in speech to the rules they use in writing. This idea has been echoed by Noguchi and Uehling.

Such an approach skirts the need to teach any terminology before using the system. In addition, exercises can be made up on the spur of the moment. Once the writers internalize the rule by means of their own thinking processes, it belongs to them forever.

In teaching the reflexive, Elgin asks students to judge the grammaticality of several sentences:

- 1) I behaved himself.
- 2) They behaved themselves.
- 3) We behaved yourself.
- 4) The children behaved themselves.
- 5) Himself behaved John....

The students are then asked to compare sentences they know to be grammatical, #1 with #4, for instance, with the others and

develop their own rule about reflexives based on this comparison.

Noguchi's approach is similar to Elgin's in that rules are arrived at inductively by the student. By teaching a limited number of grammatical concepts: subject, verb (both main and auxiliary), sentence (or independent clause), and (presentence) modifier, he can target the most obvious, frequent, stubborn, and uncomplicated errors to correct. These mistakes include run-ons, comma splices, and fragments. (See Connors and Lunsford's twenty most frequent formal errors and Hairston's most stigmatized errors to see how many kinds of errors these categories can address.)

Here is how Noguchi teaches the concept of subject to help with errors in subject-verb agreement, unnecessary shifts in person, and overuse of nonagent subjects. First, writers are taught to identify the subject by making a question out of a declarative sentence by adding a tag or making it a yes/no question:

- 1) Jim and Sue can dance the tango.
 - a) Jim and Sue can dance the tango, can't they?
 - b) Can Jim and Sue dance the tango? (46)

The tag in sentence a) contains the pronoun 'they,' which mirrors the subject of the main clause. The yes/no question asks the writer to place the verb (or auxiliary) to the left of the subject. If the sentence does not contain a subject, as in

- 2) *Enjoyed the baseball game on Saturday.

writers will find it impossible to create a grammatical sentence

by adding a tag or yes/no question. This technique allows students to identify the subject *operationally*, that is, how it functions in the sentence.

Another method to help identify and correct fragments asks students to put the fragment in this test frame:

They refused to believe the idea that...

thus generating the ungrammatical sentence:

3) *They refused to believe the idea that enjoyed the baseball game on Saturday.

Native English speakers will immediately identify this as ungrammatical and be able to find and correct the error without much prompting. This test frame works, according to Noguchi, because it requires consideration of the sentences out of context, making fragments obvious.

In terms of this framework, the functional/inductive method falls to the right of sentence combining on the analyzed knowledge axis because, with Noguchi's tests, the writer can use implicit knowledge to judge the grammaticality of the sentence, locate the error, and correct it, all without ever mentioning any terms used by traditional grammar. His method does not make the writer explicitly state the rule involved. Noguchi reports that stating the rule is unnecessary for many writers since it is too burdensome for what they want to accomplish, which is some level of awareness of error recognition and correction.

This method has been placed on the cognitive control axis at about the same place as sentence combining: Both methods rely on

implicit knowledge and thus allow the writer to deploy the information more easily than with traditional grammar, which requires learning a completely new set of terms to describe what is already known implicitly. By relying on implicit knowledge, the functional/inductive method increases fluency (i.e., production) because the writer spends time using, not analyzing, the language. But it is to the right of sentence combining on the analyzed knowledge scale because it more methodically focuses the writer's attention on the specific grammar point, which sentence combining does not.

IMPLICATIONS FOR GRAMMAR TEACHING METHODOLOGY

With Bialystok and Ryan's model at our disposal to judge grammar teaching methods, we can now more clearly understand the burdens we are placing on our students with various methods and why certain approaches do not carry over into writing. From the research mentioned above, it would seem that traditional grammar is not being blended into our students' writing because it requires a great deal of cognitive control and analyzed knowledge to deploy. Said another way, so much more effort must be put into learning and applying traditional grammar while writing that it impedes production.

On the other hand, neither sentence combining nor the functional/inductive approach hamstring students with multiple terms and abstract concepts to memorize. Rather, they have writers focus their attention on some aspect of sentence error and correction by using implicit knowledge, thus keeping the

value on the analyzed knowledge axis low. The payoff is that writers can begin to incorporate the information more easily and quickly into their writing. The sooner the student can gain control over a process, the sooner it can be incorporated into the writing process (Bialystok and Ryan 215).

The control mechanism's job is to retrieve knowledge no matter whether that knowledge is analyzed or unanalyzed. Since knowledge must first be learned to be retrievable, it stands to reason that taking a long time to learn a system just so it can be used seems counterproductive to the primary goal - to produce text. More intuitively pleasing is the notion of teaching a system of grammar that takes less time to learn because it is acquired by building on already present implicitly acquired knowledge. In other words, if so much time is spent learning to evaluate the structure, then the time and attention available for deploying that structure in writing will necessarily be compromised. Moreover, when the system of analysis is overemphasized, the specter of writer's block looms. Writers become afraid to produce because the need to evaluate arrests the creative process.

Thus it would seem that the highly analyzed system of traditional grammar has had limited success in carrying over into writing because, first, its goal is to shape mental representations, necessitating an extended period of time to acquire the system; second, control is possible only after the writer knows the system; and third, overemphasis on that skill

can undermine the production side of things. While it is indeed a short-cut for the teacher to communicate with students about flaws in writing, it is a long-cut for the student. Moreover, if students already understand the error, it may be more a matter of editing than knowledge (Hartwell). Finally, if the COIK (Clear Only If Known) factor is at work, it makes little difference what the teacher is saying.

Noguchi adds that traditional grammar, even if adequately learned, is not applicable or relevant to content, organization, or style. So it would seem that the effort one puts into learning the system is not offset even by the little that it can help the student accomplish. (See Hartwell for a discussion of this and citations of those having other opinions.)

If, on the other hand, analyzing the language is the goal, as might be the case in a foreign language classroom, then students, of necessity, must learn the terminology and concepts. Else, many reason, how will they understand explanations of how the foreign language works? (However, see Krashen's theory of "learning" vs. "acquisition," in terms of the foreign language classroom.) More advanced writers can also profit from this kind of analysis of the language since they will be using it more as a tool for revising and editing than to avoid making fundamental errors such as fragments.

While sentence combining does foster fluency and sophistication in written prose, it has very limited value in helping students draw on their knowledge of their L1 to find and

correct other kinds of errors, say, those involving punctuation. However, its proponents would argue that teaching grammar is not the aim in the first place, only a value added to the approach.

The functional/inductive approach, on the other hand, does focus attention on specific grammar problems. But because it is inductive, it does not go beyond what the students know about the language. This can only build confidence in their own knowledge of grammar.

Of course, the functional/inductive method cannot remedy all problems. For instance, it does not deal with the more rhetorical aspects of writing (see Kolln). Nor does it help the student to generate and sophisticate text to the extent sentence combining does. Too, since this method relies on standard English, teachers need to be cautious with those who speak a second dialect or language (Garrett). These students may not be able to rely fully on their judgments, [although Noguchi (personal communication) reports having a surprising amount of success using this method with nonnative speakers]. If we are dealing with basic writers, perhaps the choice of a grammar teaching method that does not require such formalized knowledge would be more appropriate, especially in light of the fact that many are more eager to write than spend time learning a grammar system.

Children also require consideration in terms of analyzed knowledge. According to Piaget, there is little or no analysis of rules unless concrete operations are in place, so it is

pointless to teach traditional grammar to children before age 7 (Inhelder and Piaget). The child must have developed enough cognitive control to be able to focus on structure and ignore meaning to perform any of these tasks. As Bialystok and Ryan point out, this framework can help predict the task difficulty: the more control that is required, the greater the difficulty, especially for young children.

Many expert writers who have learned how to negotiate between the two skills of evaluation and production (i.e., analysis and control) can be challenged with more analysis of the language (i.e., grammar training) without it disturbing them. Most have already developed strategies to overcome writer's block and analyze their writing problems (although see Rose, for a discussion about how overanalysis can foster writer's block even among experts).

While our goals for teaching grammar may vary, it seems to make more sense with basic and younger writers to begin with an approach that lessens their analytical burden by exploiting writers' rich, intuitive knowledge about the language instead of teaching them a separate, decontextualized, highly analyzed set of rules.

As these writers grow in their confidence and abilities through the more implicit grammar teaching methods, we might then consider introducing the more abstract concepts of traditional grammar. For if we look at these methods as graduated in cognitive difficulty, that is, on a continuum from least to most

cognitively challenging, we can better plan our curriculum to accommodate students' age and cognitive abilities.

Table 1 summarizes the benefits and drawbacks of each method to help target instruction to students' needs.

Table 1

Summary of Benefits and Drawbacks of As Well As Suitable Audiences for Each Method

Traditional grammar

Benefits

1. Develops a method of analyzing and correcting errors.
2. Helps adults learning L2 (or L3, L4...).
3. Gives student and teacher a shortcut (metalanguage) to discuss problems.

Drawbacks

1. Takes a long time to learn.
2. Is unavailable until after it is learned.
3. Could inhibit student's production of text.
4. May not be consonant with how student "stores" rules.

Method best for:

1. Adults learning another language.
2. Those specifically needing analysis of L1, such as English and writing teachers, copy editors, professional writers.
3. More advanced writers needing editing skills.

Sentence Combining

Benefits

1. Encourages generation and sophistication of text.

2. Relies on student's already perfect L1 rule system.
3. Develops a modicum of awareness of L1 structure.

Drawbacks

1. Does not help to find, explain, or correct errors.
2. Cannot be easily shaped into a grammar teaching "unit."
3. Does not provide a metalanguage for student and teacher to discuss problems.

Method best for:

1. Those needing to sophisticate writing.
2. Novice writers.
3. Basic writers.
4. Advanced L2 learners.

Functional/Inductive

Benefits

1. Requires learning few if any grammatical terms and concepts.
2. Presents terminology only as needed and only after an inductive approach has been used.
3. Taps into knowledge about L1.
4. Allows more time to be spent on writing.
5. Builds confidence in the writer's self-knowledge of grammar.
6. Does not go beyond what the student already knows about L1, thus keeping the teacher from presenting something the student will not understand or retain. This approach then precludes the "magical thinking" we often engage in that students will learn only what and only because we teach it (Emig).

Drawbacks

1. Is limited because it does not provide a system for identifying and fixing all kinds of mistakes.
2. Does not promote the learning of the formal structure of L1.
3. Is mostly an editing approach and not a proper "grammar teaching method."
4. As with sentence combining, cannot be easily shaped into a grammar teaching unit but uses an as needed approach.

Method best for:

1. Native speakers.
2. Basic writers.
3. Novice writers.
4. Advanced L2 learners.

CONCLUSION

It is not within the purview of this paper to design exercises or a methodology around these approaches to grammar although such an amalgam of ideas is sorely needed. I believe there is a place for grammar instruction in our classrooms, but we need to refine our notions about how it is done. I also think we should dispense with the notion of a one-size-fits-all method. Since approaches, students, and our purposes for teaching grammar vary, it behooves us to more carefully examine the amount of analyzed knowledge and cognitive control that each method requires of its learners. From that starting point, we can begin to reach a clearer understanding of which grammar instruction is the most productive in light of a writer's cognitive processes.

NOTES

¹ To distinguish "pedagogical" grammar from four other notions that are subsumed under the heading "grammar," we can look at Hartwell's discussion, in which he recapitulates Francis' three kinds of grammar and adds two more.

"Grammar 1" refers to the "formal patterns" inherent in any language. Everyone learns this grammar inductively as a child.

"Grammar 2" is the "description, analysis, and formulization (sic) of formal language patterns" (Francis 300) that linguists have devised. This kind of grammar is not meant for use in the classroom. Transformational grammar is an example.

"Grammar 3" is what people mean when they refer to "bad grammar," that is, bad usage, e.g. "Between he and I."

"Grammar 4" is what we teach in schools. This is also known as pedagogical or school grammar. Purser's definition cited above is in this category.

"Grammar 5" refers to Kolln's stylistic grammar, defined as "grammatical terms used in the interest of teaching prose style" (Hartwell 110).

² The concept of metalinguistic awareness has many definitions. Gombert's definition was the most general one I have found and therefore most suitable for my discussion here. Bialystok and Ryan (209) explicate and analyze the various definitions of metalinguistic awareness in terms of their model's two skills components, analyzed knowledge and cognitive control. See Gombert (2-4) for additional discussion.

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